



**ENTERPRISE ARCHITECT**

User Guide Series

# The Zachman Framework

Author: Sparx Systems

Date: 2025-05-05

Version: 17.1

CREATED WITH  **ENTERPRISE  
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# The Zachman Framework

The Zachman Framework is a widely used approach for engineering Enterprise Architecture. The Framework is a simple, logical structure that helps in organizing the information infrastructure of the Enterprise and provides many benefits in helping align technology with business needs.

## Discussion

The topics described here provide an introduction to, and procedural explanation of, using the Zachman Framework in Enterprise Architect.

Section	Content
Welcome 	This section provides an introduction to the Zachman Framework, and contains the formal documentation defining its use with Enterprise Architect.
Using the Zachman Framework 	Get started with the Zachman Framework, learning about the model structure, templates, diagram types and more.
Model Validation 	Learn how to develop and configure model validation for the Zachman Framework.

# Brief Introduction

Welcome to the Zachman Framework in Enterprise Architect.

Using this technology with Enterprise Architect, you can employ the Zachman Framework with the associated benefits of a multi-featured, open-standard modeling system. The Zachman Framework is already integrated with the Ultimate and Unified Editions; it can be purchased separately to be used with the Enterprise Architect Professional or Corporate Editions.

## About the Zachman Framework

The Zachman Framework is a widely used approach for engineering Enterprise Architecture. The Framework is a simple, logical structure that helps in organizing the information infrastructure of the Enterprise.

While conceptually simple, the Zachman Framework provides many benefits in helping align technology with business needs. It has become a popular approach in defining Enterprise Architecture because it:

- Is platform neutral
- Is a versatile planning device
- Is both comprehensive and readily understood by non-technical people
- Assists in problem solving
- Helps in documenting enterprise-wide information system architecture

Under the Zachman Framework, an Enterprise is modeled by answering six questions: What? How? Where? Who? When? and Why? with respect to six role perspectives: the Planner, Owner, Designer, Builder, Subcontractor and Functioning Enterprise.

For further information, visit the [Zachman Framework website](#).

## Getting Started

For instructions on how to use the Zachman Framework, see the topics:

- *Getting Started with the Zachman Framework* and
- *Using the Zachman Framework*

## Support for the Zachman Framework

Technical support for the Zachman Framework is available to registered users of Enterprise Architect through the same channels as for Enterprise Architect itself.

# Zachman Framework System Requirements

Zachman Framework version 1.1.4 runs under the environments identified here.

## Microsoft® Operating Systems Supported

- Windows 10
- Windows 8
- Windows 7
- Windows 2008 Server
- Windows 2003 Server
- Windows XP Service Pack 2

## Enterprise Architect Versions Supported

- Enterprise Architect Version 7.1 or later

## Notes

- 32 bit and 64 bit operating systems supported

# Getting Started with Zachman

When you install the Unified or Ultimate Edition of Enterprise Architect, the Zachman Framework is fully enabled and ready to use.

If you have the Corporate or Professional Edition of Enterprise Architect, you can purchase and install the MDG Technology for Zachman Framework separately; once you have entered the registration key for the MDG Technology for Zachman Framework, it is automatically available in and integrated with Enterprise Architect, as for the Unified and Ultimate Editions.

## Access the MDG Technology For Zachman Framework

1. Create a new Enterprise Architect project file, and click on the top-level Package.
2. Select the ribbon option 'Design > Package > Model Builder'.
3. In the 'Model Builder' dialog, select the 'Enterprise Architecture > Zachman' Perspective and the 'Zachman Framework' Pattern.
4. Click on the Create Model(s) button.

A new base Zachman model is created in the Browser window, containing the Zachman Framework diagram and the Planner, Owner, Designer, Builder, Subcontractor and Functioning Enterprise Packages.

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Sparx Systems Pty. Ltd.

99 Albert St,

Creswick, Victoria 3363,

AUSTRALIA

Phone: +61 (3) 5345 1140

Fax: +61 (3) 5345 1104

Support Email: [support@sparxsystems.com](mailto:support@sparxsystems.com)

Sales Email: [sales@sparxsystems.com](mailto:sales@sparxsystems.com)

Website: [sparxsystems.com](http://sparxsystems.com)

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This Software Product License Agreement relates to the separately-purchased MDG Technology for Zachman Framework for use with the Professional and Corporate Editions of Sparx Systems Enterprise Architect. The MDG Technology integrated with the Unified and Ultimate Editions of Enterprise Architect is subject to the [Sparx Systems Enterprise Architect Modelling Tool](#).

MDG Technology for Zachman Framework - Enterprise Architect MDG Add-In, Version 1.1

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- UML <sup>TM</sup>
- Unified Modeling Language <sup>TM</sup>

## Trademark of John A. Zachman and Zachman International

- The Zachman Framework For Enterprise Architecture <sup>TM</sup>

# Using the Zachman Framework

The Zachman Framework provides a model-based framework for planning, designing and implementing the Architecture for an Enterprise. The starter model provided with the Technology acts as a base upon which you can build the Enterprise Architecture. You can create the appropriate diagrams from the extended Enterprise Architect UML diagram set, using Toolbox pages that support every cell of the Zachman classification framework.

The Technology also provides model validation and reporting capabilities for strategic project plans.

Within Enterprise Architect you can choose between Diagram View and Element List View. Element List View can be used in cells where you prefer to define only the model artifacts.

You can also align cells across the framework (horizontally and vertically) through the Enterprise Architect Relationship Matrix.

You can view a demonstration video of the MDG Technology For Zachman Framework in use, on the Sparx Systems website.

The Zachman Framework Help topics provide a detailed exploration of the Zachman Framework tools and features, such as.

- The example Enterprise Architect model for the Zachman Framework
- UML profiles (Toolbox pages) for use within specific Zachman Framework cells
- A diagram interface for the Zachman Framework
- New diagram types specific to the Zachman Framework
- A flexible model starter-structure
- Report generation capabilities for strategic project plans

The MDG Technology For Zachman Framework is integrated with the features of Enterprise Architect.

# The Zachman Framework Interface Diagram

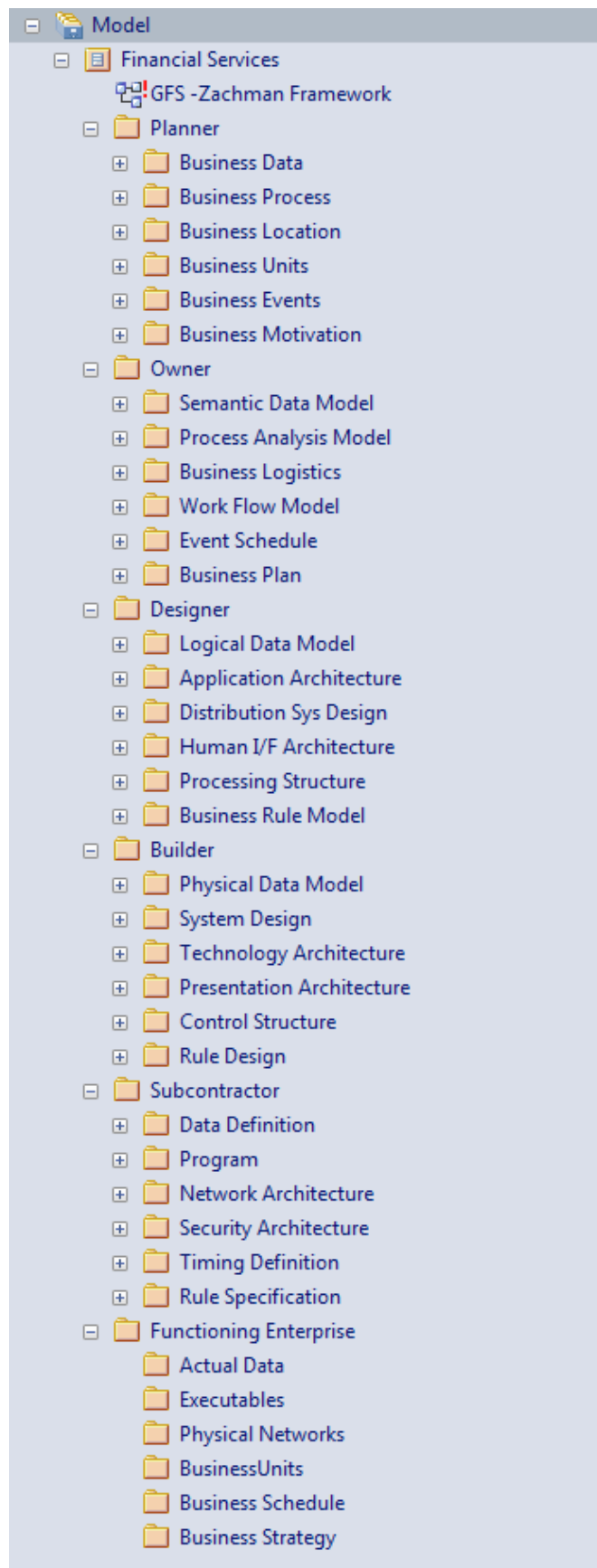
The Zachman Framework is a predefined model in Enterprise Architect. The model-level diagram of the model structure is the Zachman Framework Interface diagram, which serves as a template for the development of Enterprise Architecture based on the Zachman classification framework.

Each cell links to the relevant Zachman Framework diagram in the child Packages in the base model.

The Zachman Framework	DATA What	FUNCTION How	NETWORK Where	PEOPLE Who	TIME When	MOTIVATION Why
<b>SCOPE</b> (Contextual) Planner	Things Important to the Business 	Processes the Business Performs 	Locations in which the Business Operates 	Organizations Important to the Business 	Events/Cycles Significant to the Business 	Business Goals/Strategies 
<b>BUSINESS MODEL</b> (Conceptual) Owner	Conceptual Data Model 	Business Process Model 	Business Logistics 	Work Flow Model 	Master Schedule 	Business Plan 
<b>SYSTEM MODEL</b> (Logical) Designer	Logical Data Model 	Application Architecture 	Distributed System Architecture 	Human Interface Architecture 	Processing Structure 	Business Rule Model 
<b>TECHNOLOGY MODEL</b> (Physical) Builder	Physical Data Model 	System Design 	Technology Architecture 	Presentation Architecture 	Control Structure 	Rule Design 
<b>DETAILED REPRESENTATIONS</b> Sub-Contractor	Data Definition 	Program 	Network Architecture 	Security Architecture 	Timing Definition 	Rule Specification 
<b>FUNCTIONING ENTERPRISE</b>	Data 	Function 	Network 	Organization Units 	Schedule 	Strategy 

## Zachman Framework Model Structure

The Zachman Framework provides a Framework model template, in which each Zachman Perspective (or row) is modeled as the highest-level Package inside the model. Cells belonging to the Perspectives are modeled as child Packages of the appropriate row Package.






# The Zachman Framework Model Template

The Zachman Framework Model Template provides the model skeleton from which you can develop your Enterprise definition.

## Add a new Zachman Framework model to the project

1. Right-click on the root node and select 'Model Builder (pattern library)'. The 'Model Builder' dialog displays.
2. On the 'Model Builder' dialog, click on the  button and select 'Enterprise Architecture > Zachman' from the list.
3. Expand the group node 'Zachman Framework', then select the 'Zachman Framework' pattern.
4. Click on the Create Model button.

## Zachman Framework Diagrams

The Zachman Framework introduces new diagram types that support modeling of the Zachman Classification Framework. A Zachman Framework diagram is created in the same way as any other diagram in Enterprise Architect.

The Technology provides access to these categories of diagram through the 'New Diagram' dialog:

- Planner
- Owner
- Designer
- Builder
- Subcontractor
- Zachman Framework Interface

# Zachman Framework Diagram Types


The Zachman Framework further extends the Enterprise Architect diagram set to support the Framework, with diagram types appropriate to each cell of the Zachman Framework.

ZFI Zachman Framework						
<i>The Zachman Framework</i>	What Data	How Function	Where Location	Who People	When Time	Why Future
<b>Planner</b> Objective/Scope	Business Data	High Level Business Process	Business Locations	Organization Chart	Business Events	Business Motivation
<b>Owner</b> Conceptual	Data Map  Add-In Generated Process Map	Process Analysis	Business Logistics	BPMN	Event Schedule	Strategy Map  Mind Mapping
<b>Designer</b> Logical	Class - (Platform Independent Model)	Activity	Data Distribution Architecture	Use Case	State Transition	Business Rule Model  Requirements
<b>Builder</b> Physical	Physical Data Model	Class - (Platform Specific Model)  Component	Deployment	User Interface	Interaction  Communication	Rule Design
<b>Sub- Constructor</b> Out-of-Context	Data Definition  Enterprise Architect DDL Generation	Enterprise Architect Code Generation	Network Architecture	Security Architecture	Timing	Rule Specification
<b>FUNCTIONING ENTERPRISE</b>						

**Legend**

- UML Diagrams
- UML Profile for Zachman Framework
- Enterprise Architect extension

# The Zachman Framework Toolbox

The Zachman Framework pages of the Diagram Toolbox provide elements and relationships for all the Zachman Framework diagrams that the MDG Technology supports. The Zachman Framework Toolbox pages can be accessed by clicking on  and specifying 'Zachman' in the 'Find Toolbox Item' dialog. The Diagram Toolbox can be docked on either side of the diagram, or free floated on top of the diagram to expose more surface for editing.

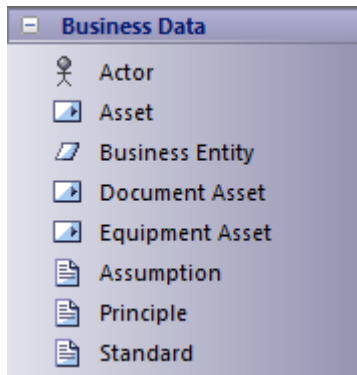
## Diagrams for Toolboxes

This table shows, for each Zachman Framework cell, the diagram that could be used.

Zachman Cell	Diagram
Planner - Data	Business Data
Planner - Function	Business Process
Planner - Location	Business Locations
Planner - People	Organization Chart
Planner - Timing	Business Events
Planner - Motivation	Business Motivation
Owner - Data	Data Map and Process Map (Generated by Add-In)
Owner - Function	Process Analysis
Owner - Location	Business Logistics
Owner - People	BPMN
Owner - Timing	Event Schedule
Owner - Motivation	Enterprise Architect Mind Mapping diagram and Strategy Map
Designer - Data	Class
Designer – Function	Activity
Designer - Location	Data Distribution Architecture
Designer - People	Use Case
Designer - Timing	State Transition

Designer - Motivation	Business Rule Model
Builder - Data	Physical Data Model
Builder - Function	Class and Component
Builder - Location	Deployment
Builder - People	User Interface
Builder - Timing	Communication and Interaction
Builder - Motivation	Rule Design
Subcontractor - Data	Data Definition; default toolbox for the diagram is Custom.
Subcontractor – Function	No diagram defined – Code generation is done in this cell.
Subcontractor - Location	Network Architecture
Subcontractor - People	Security Architecture
Subcontractor - Timing	Timing
Subcontractor - Motivation	Rule Specification

# Business Data Page



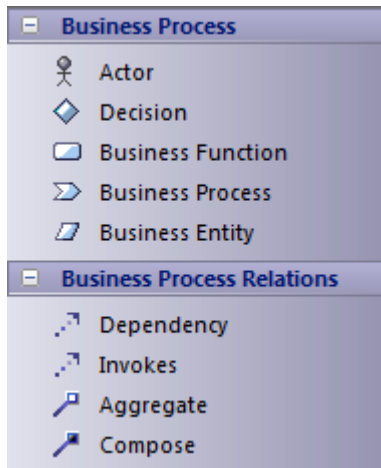
## Business Data Toolbox

Item	Description
Actor	Models a stakeholder or any other human resource of the enterprise.
Asset	Represents the enterprise resources that could be estimated for value.
Business Entity	Represents generic enterprise resources.
Document Asset	A subtype of Asset that captures the important documents of the enterprise.
Equipment Asset	A subtype of Asset that captures the equipment resources of the enterprise.
Assumption	Captures the assumptions made in information manipulation. Applies the Tagged Value Type = Enterprise / Business / System / Application / Technology / Data.
Principle	Defines the Principles framed and followed in the enterprise. Applies the Tagged Value Type = Enterprise / Business / System / Application / Technology / Data.
Standard	Defines the standards followed in the Enterprise. Applies the Tagged Value Type = Enterprise / Business / System / Application / Technology / Data.

## Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

## Business Process Pages



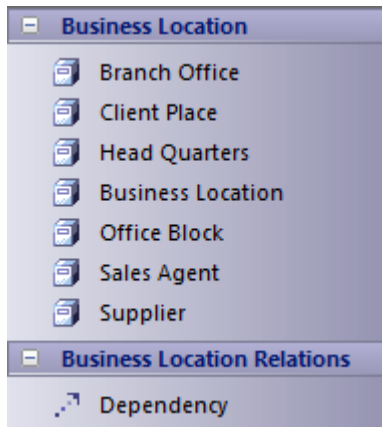
### Business Process Toolbox

Item	Description
Actor	Models a stakeholder or any other human resource of the Enterprise.
Decision	Indicates the point of conditional progression where a business decision is taken.
Business Function	Represents a major function performed by the enterprise or a part of the enterprise.
Business Process	Represents a function or behavior of the enterprise or part of the enterprise.
Business Entity	Represents generic enterprise resources.
Invokes	A relationship that defines the invocation of a business process.

### Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

## Business Location Page



### Business Location Toolbox

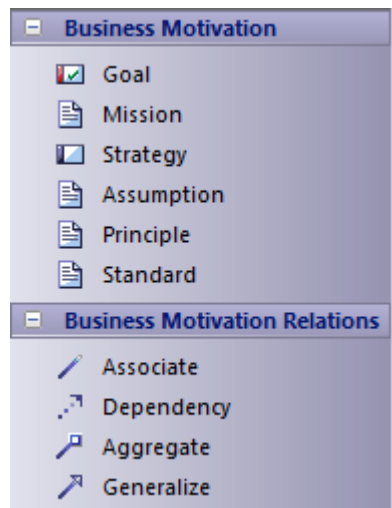
Item	Description
Branch Office	Models a Business Location as a Branch Office.
Client Place	Models a Business Location as a Client Place.
Head Quarters	Models a Business Location as a Head Quarters.
Business Location	Models the location from which the business operates.
Office Block	Models a Business Location as an Office Block.
Sales Agent	Models a Business Location as a Sales Agent.
Supplier	Models a Business Location as a Supplier.

### Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section



## Business Motivation Pages



## Business Motivation Toolbox

Item	Description
Goal	Models what is to be achieved by the enterprise, with specifications defined by the Tagged Values.
Mission	Models the mission statement, policies and values of the enterprise.
Strategy	Models the strategy statements for the business plan.
Assumption	Models the assumptions made in information manipulation. Tagged Value Type = Enterprise / Business / System / Application / Technology / Data.
Principle	Defines the Principles framed and followed in the enterprise. Tagged Value Type = Enterprise / Business / System / Application / Technology / Data.
Standard	Defines the standards followed in the enterprise. Tagged Value Type = Enterprise / Business / System / Application / Technology / Data.

## Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

## Organization Chart Pages



### Organization Chart Toolbox

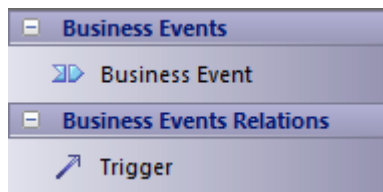
Item	Description
Board of Directors	Captures the details of the board of directors.
StakeHolder	Defines a stakeholder of the enterprise.
External Organization	Defines any external business unit that is not under direct control of the enterprise, but has a relationship with the enterprise.
Organization Unit	Defines any business unit that is under direct control of the enterprise.
Personnel	Captures the details of personnel in an enterprise.
In Contract	A connector that represents the contract-based relationships between business units.
Works For	A connector that captures the details of team links; for example, Stakeholder 1 works for Organization Unit 1.
Supervise	A connector that captures process supervision details.
Control	A connector that captures Unit in charge or Person in charge information.

### Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section



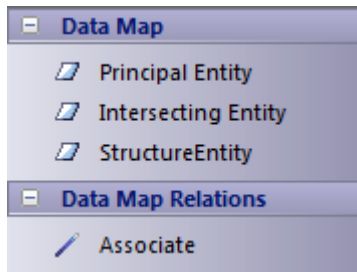
## Business Events Pages



### Business Event Toolbox

Item	Description
Business Event	Captures major business events of the enterprise.
Trigger	Indicates that a Business Event triggers another event or a business process.

## Data Map Pages



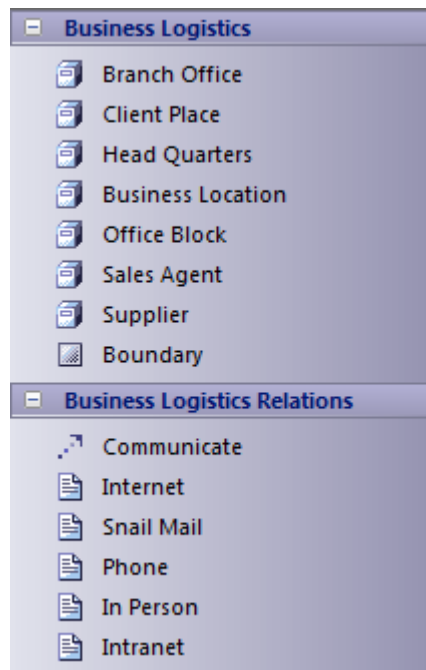
### Data Map Toolbox

Item	Description
Principal Entity	Represents a business entity that forms a resource of the enterprise.
Intersecting Entity	Normalizes the many-to-many relationship between principal entities.
Structure Entity	Captures potential knowledge-based entities.

### Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

## Business Logistics Pages



### Business Logistics Items and Relations

Item	Description
Branch Office	Models a Business Location as a Branch Office.
Client Place	Models a Business Location as a Client location
Head Quarters	Models a Business Location as Head Quarters.
Business Location	Models the location from which the business operates.
Office Block	Models a Business Location as an Office Block.
Sales Agent	Models a Business Location as a Sales Agent.
Supplier	Models a Business Location as a Supplier.
Communicate	Indicates that a business location communicates directly with another business location.
Internet	Indicates that the means of communication is the World Wide Web.
Snail Mail	Indicates that the means of communication is the postal system or courier services.
Phone	Indicates that the means of communication is the telephone.

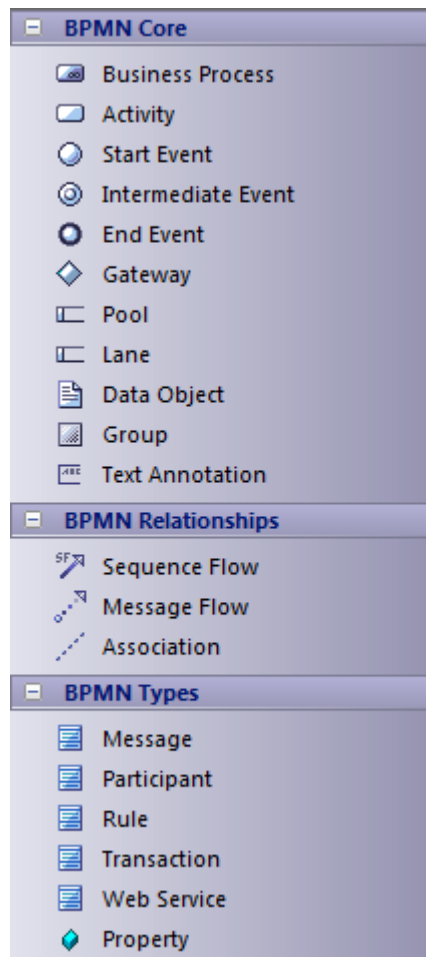
In Person	Indicates that the means of communication is direct person-to-person.
Intranet	Indicates that the means of communication is the local intranet or WAN.

## Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

## BPMN Pages

The BPMN Toolbox pages provide the graphical (Core) and non-graphical (Types) Business Process Model and Notation (BPMN) elements for use on Business Process diagrams through the Zachman Framework Technology. Specifications of these elements and relationships are defined by Tagged Values.



## BPMN Toolbox

Item	Description
Business Process	Defines a business process; an extension of a composite Activity.
Activity	Defines an activity within a business process.
Start Event	Defines the initiating event in a process.
Intermediate Event	Defines an intermediate event in a process.
End Event	Defines the terminating event in a process.
Gateway	Defines a decision point in a business process. If a condition is true, then processing continues one way; if not, then another.



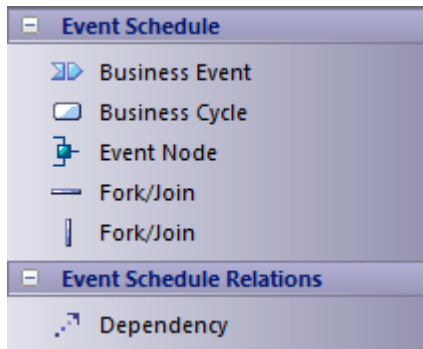
Pool	Logically organizes an Activity; an extension of a Partition element.
Lane	Subdivides a Pool; an extension of a Partition element.
Data Object	Defines a physical piece of information used or produced by a system; an extension of an Artifact element.
Group	Groups a number of other elements; an extension of a Boundary element.
Text Annotation	A comment.
Sequence Flow	Defines the flow of an activity; an extension of a Control Flow relationship.
Message Flow	Defines the flow of communications in a process; an extension of a Control Flow relationship.
Association	Associates information and artifacts with flow objects.
Message	Defines a message; an extension of a Class element.
Participant	Defines a participant in an activity; an extension of a Class element.
Rule	Defines business rule statements; an extension of a Class element.
Transaction	Defines a transaction in an activity; an extension of a Class element.
Web Service	Defines a web service; an extension of a Class element.
Property	Assigns a property to an element; an extension of an attribute.

## Notes

- Enterprise Architect is delivered with the BPMN Technologies (for BPMN 1.0, 1.1 and 2.0) automatically installed, providing BPMN profiles and Toolboxes separate from this Zachman version; to make even further use of BPMN facilities, download the BPMN Add-In from:

[https://sparxsystems.com/products/mdg\\_bpmn.html](https://sparxsystems.com/products/mdg_bpmn.html)

## Event Schedule Pages



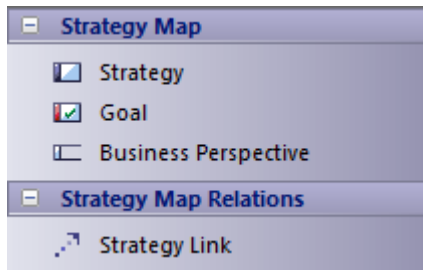
### Event Schedule Toolbox

Item	Description
Business Event	Captures major business events of the enterprise.
Business Cycle	Captures major business cycles of the enterprise.
Event Node	Captures the event points in a business cycle.

### Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

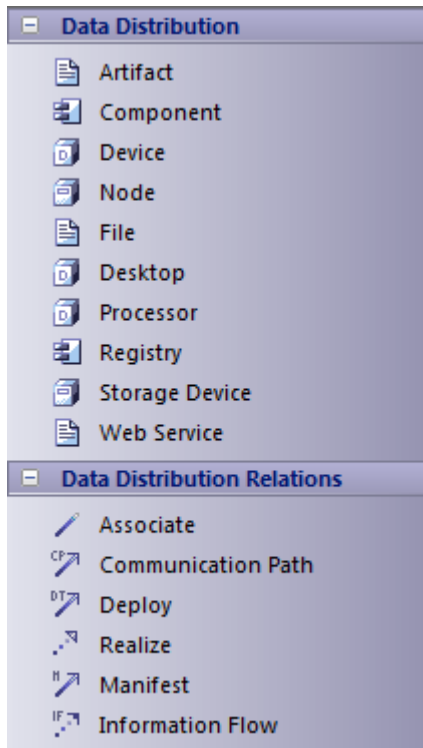
## Strategy Map Pages



### Strategy Map Toolbox

Item	Description
Strategy	Captures the strategy statements for the business plan.
Goal	Captures what is to be achieved by the enterprise, with specifications defined by the Tagged Values.
Business Perspective	Relates the strategies to a specific category.
Strategy Link	Indicates that a strategy is linked to another strategy or goal.

## Data Distribution Architecture Pages



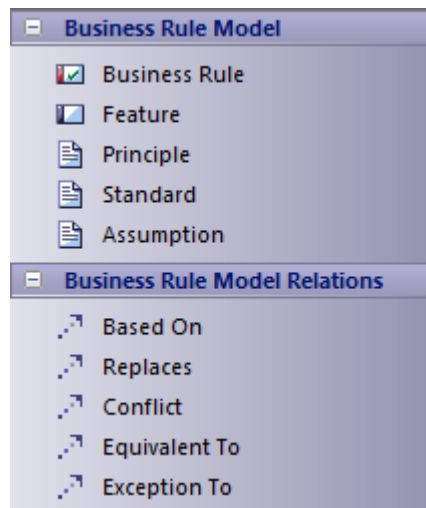
### Data Distribution Architecture Toolbox

Item	Description
File	Represents a file.
Desktop	Represents a desktop.
Processor	Represents a processor.
Registry	Represents a registry.
Storage Device	Represents a storage device.
Web Service	Represents a web service.

### Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

## Business Rule Model Pages



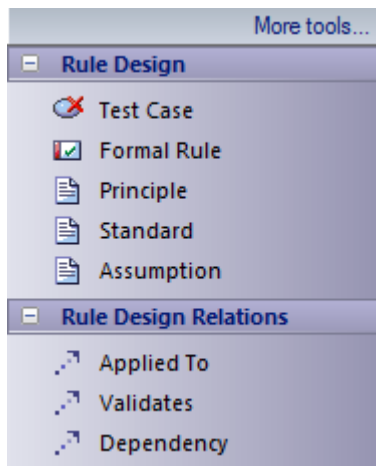
## Business Rule Model Toolbox

Item	Description
Business Rule	Captures the Business Rule statements.
Principle	Defines the Principles framed and followed in the Enterprise. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Standard	Defines the standards followed in the Enterprise. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Assumption	Captures the assumptions made in information manipulation. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Based On	Indicates that a rule is based on another model element, which forms the rationale for the rule.
Replaces	Indicates that a new rule replaces another rule.
Conflict	Indicates that a rule conflicts with another defined rule.
Equivalent To	Indicates that a rule is equivalent to another rule.
Exception To	Indicates exceptions for a rule.

## Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

## Rule Design Pages



### Rule Design Toolbox

Item	Description
Formal Rule	Represents a business rule transformed to a technology-specific logical rule or constraint statement.
Principle	Defines the Principles framed and followed in the Enterprise. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Standard	Used to define the Standards followed in the Enterprise. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Assumption	Used to capture the assumptions made in information manipulation. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Applied To	Indicates that a Formal Rule is applied to other model artifacts such as Scenarios or Activities.
Validates	Indicates that a model artifact validates a Formal Rule.

### Notes

- Elements and connectors common to Enterprise Architect UML and Extended diagrams are documented in the [Object Toolbox](#) section

# Network Architecture Pages



## Network Architecture Toolbox

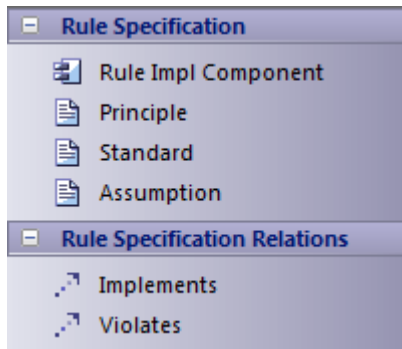
Item	Description
Artifact	Generic graphical element used to capture information.
Document Artifact	Generic graphical element used to capture detailed information such as network configuration details.

## Notes

- For a full description of Artifact elements, see the Artifact topic



## Rule Specification Pages



### Rule Specification Toolbox

Item	Description
Rule Impl Component	Captures the component implementing a rule.
Principle	Defines the Principles framed and followed in the enterprise. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Standard	Defines the Standards followed in the enterprise. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Assumption	Captures the assumptions made in information manipulation. Tag Value Type = Enterprise / Business / System / Application / Technology / Data.
Implements	Indicates that a Rule Impl Component implements a rule.
Violates	Indicates that the rule is violated by the connecting model element.

# Tagged Values for Zachman Framework

The Zachman Framework makes extensive use of Tagged Values to assign custom properties to the various Zachman Framework elements. When creating or viewing a Zachman Framework model, it is recommended that you keep the Properties window docked and visible at all times, with the 'ZF' section expanded.

## Access

Ribbon	Start > All Windows > Properties > General > Tagged Values Explore > Portals > Windows > Properties > Tagged Values
Keyboard Shortcuts	Ctrl+2

## Synchronize Tagged Values

From time to time you might need to add missing Tagged Values to all elements in the model that require them, such as:

- Whenever you create a new element by any means other than directly dropping the element from the Zachman Framework Toolbox pages
- Before using a new version of the Technology, to update the Tagged Values of elements in existing models to the latest version of the Zachman Framework profile

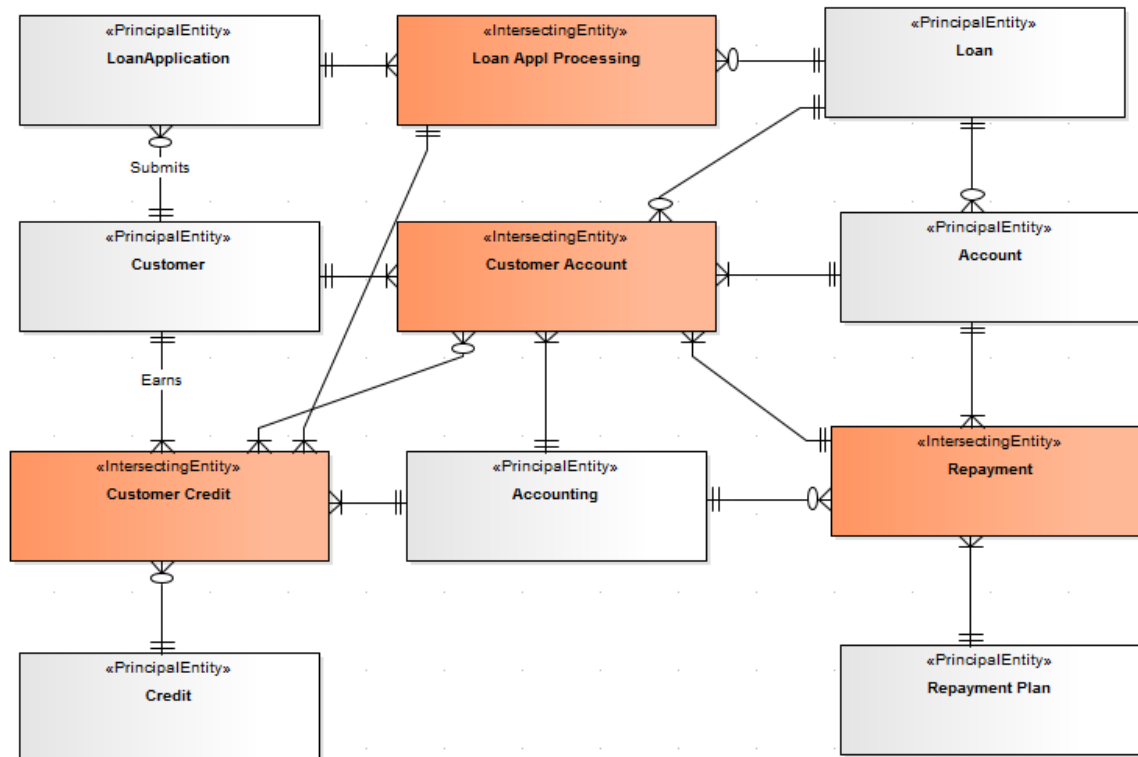
You can do this using the 'Synchronize Stereotype' option on the icons in the Zachman Framework pages of the Diagram Toolbox.

## Data Map Analysis

A valid Data Map diagram is basically an Entity Relationship diagram constructed using Principal Entity, Structure Entity and Intersecting Entity elements. The relationships between them are defined by the business rules.

- Principal Entities are identified from the Business Entities in scope
- Intersecting Entities are used to break a many-to-many association between Principal Entities, which form potential business processes
- Structure Entities represent the existence of a potential knowledge base

This is an example of a valid Data Map diagram:



Cluster Reports and Process Maps are deliverables of a valid Data Map diagram analysis.

### Perform a Data Map diagram analysis

With the Data Map diagram to be analyzed open and active, either:

- Select the 'Specialize > Add-Ins > Zachman Framework > Do Data-Map Analysis' ribbon option, or
- Right-click on the Data Map diagram in the Browser window, and select the 'Specialize | Zachman Framework | Do Data-Map Analysis' context menu option

The 'Data Map Analysis' dialog displays.

Package: Semantic Data Model

Options

☒ Generate Process Map

☒ Generate Cluster Report

Filename:  ...

Generate View Report Close Help

Progress

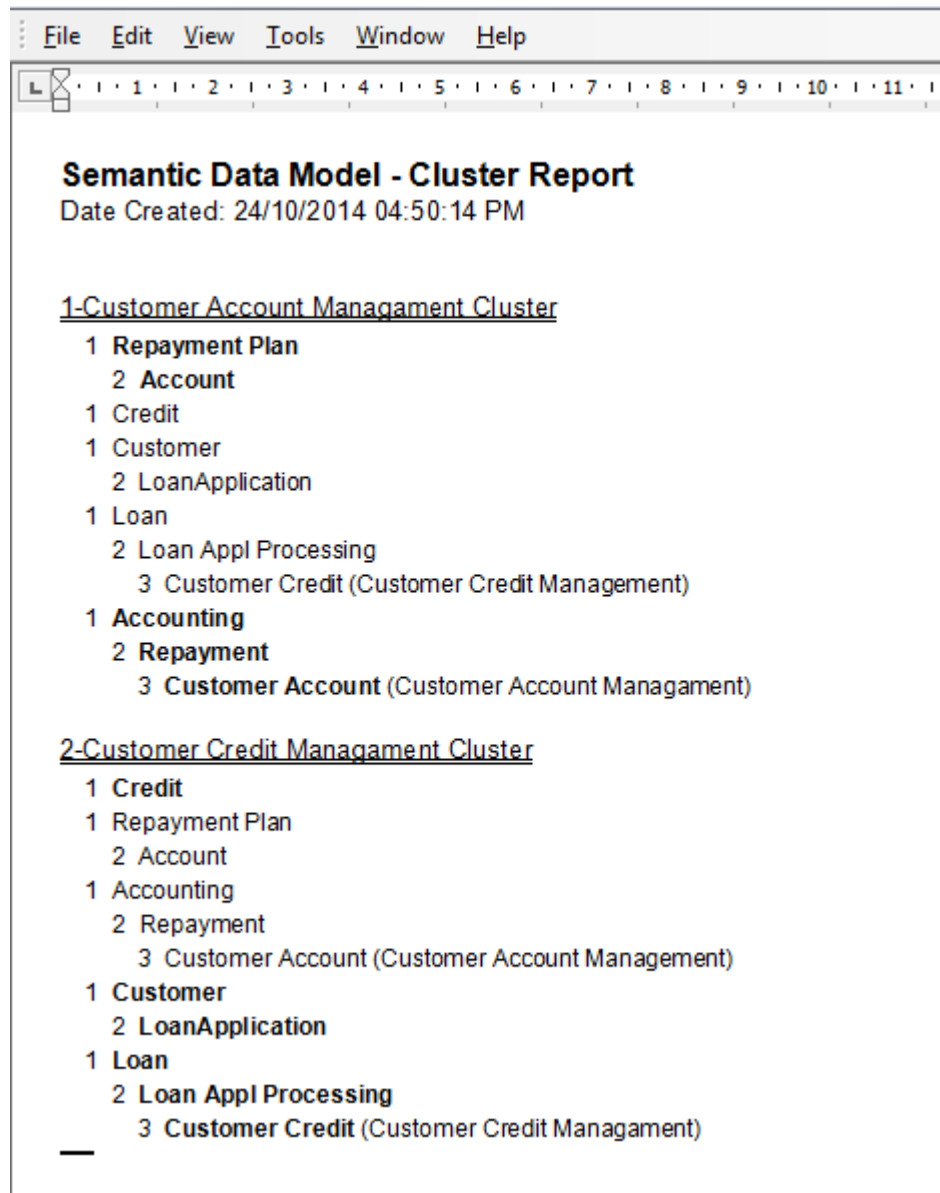
Click on the checkbox against each deliverable required. If you have selected 'Generate Cluster Report', also enter the file pathname under which to save the report.

Click on the Generate button.

# Cluster Report

A cluster is a logically related group of processes arranged in a sequence, this being the plan of the order of the execution of processes.

This Cluster Report was generated for the sample Data Map diagram, in .rtf format.



The report shows how each cluster is a logical group of processes or tasks forming a major business process.

The number preceding each entity name is the phase number for the entity. Phase 1 against an entity means that the entity forms a potential resource/element that must be procured/framed before proceeding with the business process.

Entities with phase numbers greater than 1 are potential processes, with their sequence of execution set after procuring/framing the phase 1 entities in the cluster.

After successful completion of Data Map analysis, the phase property of each entity in the Data Map diagram is set accordingly.

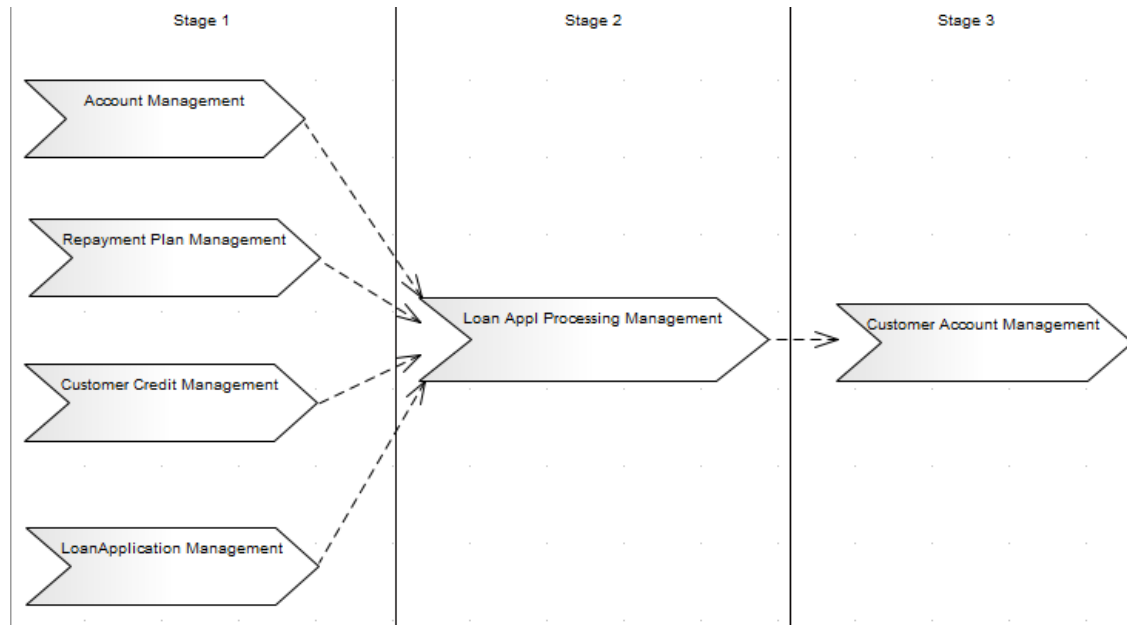
## Acknowledgement

The algorithm for Cluster Report generation is derived from the book *Enterprise Architecture for Integration: Rapid Delivery Methods and Technologies* (Clive Finkelstein; April 2006).

## Process Map

A Process Map is the visual model of the Cluster Report; however, the Phase 1 entities in the Cluster Report are not shown. The Process Map groups the identified Business Processes into the stages of the project, arranged as a guide for the project.

This is the Process Map generated for the sample Data Map diagram.



# Business Scorecard Report Template

To aid your strategic management methods, the Zachman Framework provides a report template for creating Business Scorecards.

## Generate a Business Scorecard

Step	Action
1	In the Browser window, click on the Package containing your Business Perspectives and Strategies (an Owner   Business Plan   Strategic Plan Package). The Business Perspectives must own the respective strategies.
2	Either: <ul style="list-style-type: none"><li>• Press F8, or</li><li>• Select the 'Publish &gt; Model Reports &gt; Report Builder &gt; Generate Documentation' menu option</li></ul> The 'Generate Documentation' dialog displays.
3	In the 'Use Template' field, click on the drop-down arrow and select 'Balanced Score Card'.
4	Click on the Generate button.



# Model Validation

The Zachman Framework registers with Enterprise Architect to receive model validation requests from users.

## Configure Model Validation

To configure Enterprise Architect to perform Zachman Framework model validation, select:

- 'Design > Package > Manage > Validate > Configure Validation Rules'

The 'Model Validation Configuration' dialog displays.



To perform validation on Zachman Framework models only, click on the Select None button and then click on the checkbox for 'Zachman Framework (ZF) Rules'. Click on the OK button.

## Validate Zachman Framework Model

You can validate, against the Zachman Framework rules:

- An element and any connectors attached to it
- A diagram and all its elements, or
- A Package and all its diagrams and elements

To do this, click on the element, diagram or Package and then select:

- 'Design > Package > Manage > Validate > Validate Current Package'

The 'Model Validation status' dialog displays, showing the progress of the validation.

# Validation Messages for Elements

These error messages can be output by the validation of a Zachman Framework element.

## Messages

Element	Diagram and Message
Event Node	Event Schedule Message: Event Nodes must be used only with Business Cycles Meaning: An Event Node has been used with elements other than Business Cycle.
Event Node	Event Schedule Message: Message triggered Event Node must have a message defined Meaning: An Event Node with the 'Trigger' Tagged Value set to 'Message' does not have the 'MessageDetail' Tagged Value set.
Event Node	Event Schedule Message: Rule triggered Event Node must have Rule defined Meaning: An Event Node with the 'Trigger' Tagged Value set to 'Rule' does not have the 'Rule' Tagged Value set.
Event Node	Event Schedule Message: Error triggered Event Node must have the Error defined Meaning: An Event Node with the 'Trigger' Tagged Value set to 'ErrorDetail' does not have the 'Error' Tagged Value set.
Event Node	Event Schedule Message: Multiple triggered Event Node must have a defined list of Triggers Meaning: An Event Node with the 'Trigger' Tagged Value set to 'Multiple' does not have the 'Trigger' Tagged Value set.
Business Cycle	Event Schedule Message: Business Cycles must have Event Nodes defined Meaning: A Business Cycle element does not have any Event Nodes defined.
Goal	Business Motivation/ Strategy Map Message: Goal not realized Meaning: A Goal has no relationship defined with other model artifacts.
Strategy	Business Motivation/ Strategy Map Message: Strategy not realized Meaning: A Strategy has no relationship defined with other model artifacts.

# Validation Messages for Connectors

These error messages can be output by the validation of a Zachman Framework connector.

## Messages

Connector	Diagram and Message
Association	Data Map Message: DataMap Association must have a valid source element Meaning: An Association has a source element other than Principal Entity, Structure Entity or Intersecting Entity.
Association	Data Map Message: DataMap Association must have a valid target element Meaning: An Association has a target element other than Principal Entity, Structure Entity or Intersecting Entity.
Association	Data Map Message: Possibility of an Intersecting entity < name> which might represent a Potential Business Process exists – This is a warning message. Meaning: An Association has a many-to-many relationship, informing that the relationship could be normalized.
Strategy Link	Strategy Map Message: Strategy Map Association must have a valid source element Meaning: A Strategy Link has a source element other than Strategy and Goal.
Strategy Link	Strategy Map Message: StrategyMap Association must have a valid target element Meaning: A Strategy Link has a target element other than Strategy and Goal.

# Validation Messages for Diagrams

These error message can be output by the validation of a Zachman Framework diagram.

## Messages

Diagram	Message
Data Map	Entities must have relations in DataMap Meaning: In the Data Map diagram there are entities with no relationships defined.

